





DECLARATION A	ND POWER	Atta	ey Docket No.	SNS-	S-006CP1				
OF ATTORNEY FO	OR UTILITY	First N	Vamed Inventor	Shih	et al.				
OR DESIG	GN		COMPLETE IF KNOWN						
PATENT APPLI	CATION	Applic	cation Serial Number	09/34	17,637				
☐ Declaration ☐ Dec	laration	Filing	Date	July 6	6, 1999				
Submitted with Subm	nitted after Initial	Group	Art Unit	2772					
Initial Filing Filing	g (surcharge	Exami	ner Name	Not Y	Yet Assigned				
37 CI	FR 1.16(e) required)								
·									
As a below named inventor, I	hereby declare that:					•			
My residence, post office addre	ss, and citizenship are	as stated	below next to my nam	ne.					
I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:									
SYSTEMS AND METHODS FOR SCULPTING VIRTUAL OBJECTS IN A HAPTIC VIRTUAL REALITY ENVIRONMENT									
(Title of the Invention)									
the specification of which									
is attached hereto OR									
was filed on (MM/DD/YYYY)	07/06/1999		as United States Appl	lication	Serial Number	or PCT International			
Application Number 09/3	347,637 and	was ame	nded on (MM/DD/YYY	Y) [(if applicable).			
I hereby state that I have review by any amendment specifically		contents	s of the above identified	d specif	fication, includi	ng the claims, as amended			
I acknowledge the duty to discl	ose information which	is mater	ial to patentability as d	lefined i	in 37 CFR 1.56				
I hereby claim foreign priority be certificate, or 365(a) of any PC listed below and have also iden PCT international application h	I international applica tified below, by check	tion which	ch designated at least o ox, any foreign applica	one cour ation for	ntry other than t r patent or inver	the United States of America, ntor's certificate, or of any			
Prior Foreign Application Number(s)	Country		Foreign Filing Da (MM/DD/YYYY		Priority Not Claimed	Certified Copy Attached? YES NO			
			a supplemental priorit						
I hereby claim the benefit under		 			on(s) listed belo	ow.			
Application Serial Num 60/093,304	Der(s)		ate (MM/DD/YYYY) July 17, 1998		serial nu	nal provisional application mbers are listed on a ental priority data sheet hereto.			

Serial No.: 09/347,637

Page 2 of 4



DECLARATION - Utility or Design Patent Application

U.S. Parent Application or PCT Parent Serial Number			Parent Filing Date (MM/DD/YYYY)		Parent Patent Number (if applicable)	
09/340,875	6/28/1999					
Additional U.S. or PCT inter	rnational application numbers ar	re listed on	a supplemental priority d	ata sheet attach	ed hereto	
As a named inventor, I hereby ap	ppoint the following registered p	ractitioners	to prosecute this applica	tion and to tran	sact all business in the Patent	
and Trademark Office connected	ımber		\rightarrow	Place Customer Number Bar Code Label Here		
	OR ⊠ Registered pr	∟ ractitioner	(s) name/registration n	umber listed b		
	Registration			•	Registration	
Name	Number		Name		Number	
Steven M. Bauer	31,481		Kurt W. Lockwood		40,704	
Isabelle A.S. Blundell	43,321		Marianne McLaugh	lin	42,870	
Maureen A. Bresnahan	P-44,559		Thomas C. Meyers		36,989	
Michael H. Brodowski	41,640		Joseph B. Milstein Ronda P. Moore		42,897	
Tara C. Cacciabaudo	40,935	-			44,244	
Jennifer A. Camacho		43,526			27,829	
Joseph A. Capraro, Jr.		36,471			P-45,281	
John J. Cotter	38,116		Kurt Rauschenbach		40,137	
Jennifer L. Dupre John V. Forcier	41,722		Michael A. Rodrigu Michael J. Schmelz		41,274 43,093	
Michael Giannetta	42,545 42,574		J. Scott Southworth		39,382	
Duncan A. Greenhalgh	38,678		Christopher W. Star		35,370	
William G. Guerin	41,047		Robert J. Tosti	1103	35,393	
Ira Heffan	41,059		Thomas A. Turano		35,722	
Danielle L. Herritt	43,670		Michael J. Twomey		38,349	
Elizabeth E. Kim	43,334		Christine C. Vito		39,061	
Mi Kim	P-44,830		Patrick R.H. Waller		41,418	
Douglas J. Kline	35,574					
John D. Lanza	40,060					
Timothy P. Linkkila	40,702					
Additional registered practice of the Direct all correspondence to:	Patent Administr Testa, Hurwitz & High Street Towe	ator Thibeaul		ormation shee	et attached hereto.	
Direct all correspondence to:	Testa, Hurwitz & High Street Towe 125 High Street	Thibeaulter	t, LLP			
	Boston, MA 021					
	Tel. No.: (617) 24					
	Fax No.: (617) 24	48-7100				

Serial No.: 09/347,637

Page 3 of 4

Name of Sole or First	Inventor:		□ A	petition has	been filed	for this unsi	gned inv	ventor	
Given Na	me (first and mide	dle [if any])		Family Name or Surname					
Loren	In	<i>?</i> 7 .		Shih					
Inventor's Signature	X45/					Date 13/	770		
Street Address	20 Pemberton S	Street		•		Citizenshi	p l	USA	
	City	Cambridge	State	MA	Zip	02140	Count	try	USA
Post Office Address	20 Pemberton S	20 Pemberton Street							
	City	Cambridge	State	MA	Zip	02140	Count	try	USA
Additional inventors are being named on the supplemental Additional Inventor(s) sheet(s) attached hereto.									
Name of Additional Joint Inventor, if any: A petition has been filed for this unsigned inventor									
Given N		Family Name or Surname							
Walter A.	lter A. Aviles								
Inventor's Signature			•		Date				
Street Address	809 Moana Dr.	7-40			Citize			USA	
	City	San Diego	State	CA	Zip	92106	Count	try	USA
Post Office Address	809 Moana Dr.					. 1.			
	City	San Diego	State	CA	Zip	.2106	Count	try	USA
Name of Additional Jo	int Inventor, if a	ny:		☐ A per	tition has b	een filed for	this uns	signed	inventor
Given Na	me (first and mide	dle [if any])			F	amily Name	or Surn	name	
Thomas H.				Massie					
Inventor's Signature						Date			
Street Address	55 Mammoth R	load				Citizensh	ip (USA	
	City	Windham	State	NH	Zip	03087	Count	try	USA
Post Office Address	55 Mammoth R	load	•	··········	•	···•	-		
	City	Windham	State	NH	Zip	03087	Count	try	USA

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Given Name (first and middle [if any])				Family Name or Surname						
Walter C.				Shannon I	П					
Inventor's Signature			Date							
Street Address	305 Cherry St	reet			•	Citizenship		USA		
	City	West Newton	State	MA	Zip	02465	Cou	ntry	USA	
Post Office Address	305 Cherry St	reet	•	-		•	•			
	City	West Newton	State	MA	Zip	02465	Cou	ntry	USA	

				FEB 0.7 2000 9			
	DECLARAT	TION AND POWER	Attorney Docket No.	SNS-006CP1			
	OF ATTORM	NEY FOR UTILITY	First Named Inventor	Shih et al.			
;	OR DESIGN		COMPLETE IF KNOWN				
	PATENT	APPLICATION	Application Serial Number	09/347,637			
	☐ Declaration	□ Declaration	Filing Date	July 6, 1999			
	Submitted with	Submitted after Initial	Group Art Unit	2772			
	Initial Filing	Filing (surcharge 37 CFR 1.16(e) required)	Examiner Name	Not Yet Assigned			

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Application Number 09/347,637 and was amended on (MM/DD/YYYY) (if applicable).								
I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.								
I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.								
I hereby claim foreign priority by certificate, or 365(a) of any PCT listed below and have also ident PCT international application has	Γ international ified below, by	application which y checking the bo	th designated at least one coox, any foreign application	ountry other than for patent or investigation	the United States	of America,		
Prior Foreign Application			Foreign Filing Date	Priority	Certified Cop	~		
Number(s)	Co	untry	(MM/DD/YYYY)	Not Claimed	YES	NO		
			a supplemental priority dat					
I hereby claim the benefit under				ntion(s) listed belo	ow.	_		
Application Serial Num	ber(s)		nte (MM/DD/YYYY)	4				
60/093,304		J	July 17, 1998	serial nu	nal provisional ap mbers are listed ental priority dat hereto.	on a		

Serial No.: 09/347,637

Page 2 of 4



DECLARATION - Utility or Design Patent Application

Serial Numl	or PCT Parent ber	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)		
09/340,875	6/28/19	999			
Additional U.S. or PCT internat	tional application numbers are listed	on a supplemental priority data sheet atta	ched hereto.		
As a named inventor, I hereby appo and Trademark Office connected the		ners to prosecute this application and to tra	Place Customer Number Bar Code Label Here		
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Timothy P. Linkkila	40,702				

Serial No.: 09/347,637

Page 3 of 4



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Loren				Shih					
Inventor's Signature						Date			
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	City	Cambridge	State	MA	Zip	02140	Country	USA	
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Given N		Family Name or Surname							
Walter A.		_	_	Aviles					
Inventor's Signature	(/)	<u> </u>			Date 200	~ GO			
Street Address	809 Moana Dr.					Citizenship USA			
	City	San Diego	State	CA	Zip	92106	Country	USA	
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Thomas H.				Massie					
Inventor's Signature						Date			
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	City	Windham	State	NH	Zip	03087	Country	USA	
Post Office Address	55 Mammoth R	load			•	•	•	•	
	City	Windham	State	NH	Zip	03087	Country	USA	



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Inventor's Signature						Date		<u> </u>		
Street Address	305 Cherry	y Street	Citize			izenship USA				
	City	West Newton	State	MA	Zip	02465	Co	untry	USA	
Post Office Address	305 Cherr	305 Cherry Street								
	City	West Newton	State	MA	Zip	02465	Со	untry	USA	

•	.			OTPE VC			
DECLARAT	ION AND POWER	Attorney Docket No.	SNS-006CP1	FED 0 7 ED C			
OF ATTORNEY FOR UTILITY		First Named Inventor	Shih et al.	TEAT & TRADEMARKS			
OR	DESIGN	COMPLETE IF KNOWN					
PATENT	APPLICATION	Application Serial Number	09/347,637				
☐ Declaration	□ Declaration	Filing Date	July 6, 1999				
Submitted with	Submitted after Initial	Group Art Unit	2772				
Initial Filing	Filing (surcharge	Examiner Name	Not Yet Assigned				
	37 CFR 1.16(e) required)	}					

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My residence, post office address, and citizenship are as stated below next to my name.								
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	(Title	of the Invention)						
07/06/1	999	as United States Application	on Serial Number	or PCT International				
47,637	and was amer	nded on (MM/DD/YYYY) [(if applicable).				
I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.								
se information	n which is materi	al to patentability as define	ed in 37 CFR 1.56.					
I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any								
_		Foreign Filing Date	Priority	Certified Copy Attached?				
Co	untry	(MM/DD/YYYY)	Not Claimed	YES NO				
plication numb	ers are listed on	a supplemental priority dat	a sheet attached he	ereto.				
			ation(s) listed belo	w.				
ber(s)								
		July 17, 1998	serial nur suppleme	al provisional application nbers are listed on a ental priority data sheet hereto.				
	or/06/1 07/06/1	and sole inventor (if only one nubject matter which is claimed at METHODS FOR SCULPTING EN' (Title 07/06/1999 447,637 and was amered and understand the contents referred to above. ose information which is material to be informational application which is international application which is material to be infinitely below, by checking the botal below in the below in the below in the botal below in th	and sole inventor (if only one name is listed below) or an aubject matter which is claimed and for which a patent is sometime. METHODS FOR SCULPTING VIRTUAL OBJECTS IN ENVIRONMENT (Title of the Invention) as United States Application 447,637 and was amended on (MM/DD/YYYY) ed and understand the contents of the above identified specifiered to above. as information which is material to patentability as defined preferred to above. become information which is material to patentability as defined preferred to above. The international application which designated at least one contified below, by checking the box, any foreign application avoing a filing date before that of the application on which the application on which the application on which the importance of the import	and sole inventor (if only one name is listed below) or an original, first and jubject matter which is claimed and for which a patent is sought on the inventor METHODS FOR SCULPTING VIRTUAL OBJECTS IN A HAPTIC VIRTUAL OBJECTS				

Serial No.: 09/347,637

Page 2 of 4



DECLARATION - Utility or Design Patent Application

United States of America, listed below States or PCT International application which is material to patentability as d PCT international filing date of this a	n in the manner provided efined in 37 CFR 1.56 wh	by the first pa	ragraph of 35 U.S.C. 112, I ac	cknowledg	ge the duty to disclose information			
U.S. Parent Application o Serial Numbe	r PCT Parent	Parent Filing Date (MM/DD/YYYY)			Parent Patent Number (if applicable)			
09/340,875	6/28/1999							
Additional U.S. or PCT internation	onal application numbers	are listed on a	supplemental priority data sho	eet attache	ed hereto.			
As a named inventor, I hereby appoin and Trademark Office connected ther	ewith: Customer N OR	umber	nctitioners to prosecute this application and to transact all business in the Patent her ————————————————————————————————————					
Registration				Į	Registration			
Name	Number		Name		Number			
Steven M. Bauer Isabelle A.S. Blundell Maureen A. Bresnahan Michael H. Brodowski Tara C. Cacciabaudo Jennifer A. Camacho Joseph A. Capraro, Jr. John J. Cotter Jennifer L. Dupre John V. Forcier Michael Giannetta Duncan A. Greenhalgh William G. Guerin Ira Heffan Danielle L. Herritt Elizabeth E. Kim Mi Kim Douglas J. Kline John D. Lanza Timothy P. Linkkila	31,481 43,321 P-44,559 41,640 40,935 43,526 36,471 38,116 41,722 42,545 42,574 38,678 41,047 41,059 43,670 43,334 P-44,830 35,574 40,060 40,702		Kurt W. Lockwood Marianne McLaughlin Thomas C. Meyers Joseph B. Milstein Ronda P. Moore Edmund R. Pitcher Dianne M. Rees Kurt Rauschenbach Michael A. Rodriguez Michael J. Schmelzer J. Scott Southworth Christopher W. Stamos Robert J. Tosti Thomas A. Turano Michael J. Twomey Christine C. Vito Patrick R.H. Waller		40,704 42,870 36,989 42,897 44,244 27,829 P-45,281 40,137 41,274 43,093 39,382 35,370 35,393 35,722 38,349 39,061 41,418			
Additional registered practition		nental Regis	tered Practitioner Informat	ion sheet	attached hereto.			
Direct all correspondence to:	Patent Administ Testa, Hurwitz & High Street Tow 125 High Street Boston, MA 02 Tel. No.: (617) 2 Fax No.: (617) 2	& Thibeault, ver 110 248-7000	LLP					

Serial No.: 09/347,637

Page 3 of 4



Name of Sole or First	Inventor:		□ A	petition has	been filed	for this unsig	gned invent	or		
Given Na	me (first and mid	dle [if any])		Family Name or Surname						
Loren				Shih						
Inventor's Signature						Date				
Street Address	20 Pemberton S	Street		-		Citizenshi	O USA			
	City	Cambridge	State	MA	Zip	02140	Country	USA		
Post Office Address	20 Pemberton Street									
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Additional inventor	s are being name	d on the supp	lementa	l Additional	Inventor(s) sheet(s) att	ached here	to.		
Name of Additional Jo	int Inventor, if a	iny:		☐ A petition	on has bee	n filed for thi	s unsigned	inventor		
Given Name (first and middle [if any])						Family Nam	e or Surnan	ne		
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Inventor's Signature				•		Date				
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	City	San Diego	State	CA	Zip	92106	Country	USA		
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Given Na	me (first and mid	dle [if any])		Family Name or Surname						
Thomas H.	10	1 01		Massie						
Inventor's Signature	Mount	1 4 Mal	1co			Date	1	1/14/00		
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	City	Windham	State	NH	Zip	03087	Country	USA		
Post Office Address	55 Mammoth F	Road	•			•				
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Given 1									
Walter C.				Shannon l	П				
Inventor's Signature						Date			
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Post Office Address	305 Cherr	y Street			I	L			
	City	West Newton	State	MA	Zip	02465	Co	untry	USA



	DECEMBER OF THE PROPERTY OF TH		Attorney Docket No.	SNS-006CP1	10.16
			First Named Inventor	Shih et al.	(FEB 0 7 2000 88)
	OI	R DESIGN	C	OMPLETE IF KNO	WARE TO SHEET
	PATENT	APPLICATION	Application Serial Number	09/347,637	THE STATE OF THE S
	Declaration	□ Declaration	Filing Date	July 6, 1999	
	Submitted with	Submitted after Initial	Group Art Unit	2772	
	Initial Filing	Filing (surcharge	Examiner Name	Not Yet Assigned	
		37 CFR 1.16(e) required)			
As	a below named in	ventor, I hereby declare that:			

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My residence, post office address	ss, and citizens	hip are as stated	below next to my name.		
I believe I am the original, first names are listed below) of the st					
SYSTEMS AND N	METHODS FO		VIRTUAL OBJECTS IN A VIRONMENT	A HAPTIC VIRT	UAL REALITY
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was filed on (MM/DD/YYYY)	07/06/19	999	as United States Application	on Serial Number	or PCT International
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I hereby claim foreign priority b certificate, or 365(a) of any PCI listed below and have also ident PCT international application has	international :	application which	h designated at least one coox, any foreign application	ountry other than to for patent or inver	the United States of America, ntor's certificate, or of any
Prior Foreign Application			Foreign Filing Date	Priority	Certified Copy Attached?
Number(s)	. Coi	untry	(MM/DD/YYYY)	Not Claimed	YES NO
Additional foreign app	plication numb	ers are listed on	a supplemental priority dat	a sheet attached h	ereto.
I hereby claim the benefit under		· · · · · · · · · · · · · · · · · · ·		tion(s) listed belo	ow.
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60/093,304			July 17, 1998	serial nu	al provisional application mbers are listed on a ental priority data sheet hereto.

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DECLARATION - Utility or Design Patent Application

or PCT Parent ber	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)		
6/28/19	999			
tional application numbers are listed	on a supplemental priority data sheet attac	thed hereto.		
int the following registered practition erewith: OR	ners to prosecute this application and to tra	Place Customer Number Bar Code Label Here		
	rer(s) hame/registration fulfiber fisted			
		Registration		
		Number		
	•	40,704		
		42,870		
		36,989		
		42,897		
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	rairick K.ri. Waller	41,418		
1	6/28/19 tional application numbers are listed int the following registered practition erewith: Customer Number OR	tional application numbers are listed on a supplemental priority data sheet attace int the following registered practitioners to prosecute this application and to trace erewith: Customer Number Registration Number Name 31,481 43,321 P-44,559 41,640 40,935 43,526 36,471 38,116 41,722 42,545 42,574 38,166 41,722 Michael J. Schmelzer 42,574 38,678 41,047 41,059 43,670 43,334 P-44,830 35,574 40,060		

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Thomas H.				Massie						
Inventor's Signature						Date				
Street Address	55 Mammoth Road					Citizenship USA				
	City	Windham	State	NH	Zip	03087	Country	USA		
Post Office Address	55 Mammoth R	load	-	•						
	City	Windham	State	NH	Zip	03087	Country	USA		



							O ENVISION				
oint Inventor		A petition has been filed for this unsigned inventor									
Given Name (first and middle [if any])					Family Name or Surname						
Walter C.					Shannon III						
Inventor's Signature Watto Champe				P Date 1/14/2							
305 Cherry Street					Citizensl	SA					
City	West Newton	State	MA	Zip	02465	Countr	y USA				
305 Cherry Street						_1					
City	West Newton	State	MA	Zip	02465	Countr	y USA				
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